REMARKS

In the advisory action of March 15, 2010, the examiner alleges that applicants do not appear to argue/disagree that the Banin prior art reference applied by the examiner is capable of having both ends covered.

Applicants however disagree with the examiner's allegation that applicants did not argue that Banin is incapable of having both ends covered, as evidenced by applicants' comments regarding "one dimensional rod growth" with a solution-liquid-solid mechanism (SLS method) in the paragraph bridging pages 9 and 10 of the amendment filed February 17, 2010. To elaborate further, the applied Banin reference does not teach nanostructures, each having two or more nanozones, one at every end of the structure. The process of Banin, even though not a VLS method and despite the fact that it too is a solution growth method, does not permit growth of nanostructures where each has two or more nanozones. The reason lies in the fact that the nanorod growth in the Banin process is one directional. One begins with a seed (metal nanoparticle) and the material grows therefrom only in one direction, as clearly shown in Figure 1 (and the representative Figure on the front page of Banin). Thus, the seed is the starting nanocrystal from which the rod material (e.g., semiconductor material) grows. As is clearly taught on page 13, second paragraph of the Banin reference, the

growing direction shown in Figure 1 signifies that the left portion of the rod was grown first and then moved away from the seed (metallic catalyst) during continuous growth of the rod. A second metallic seed does not and cannot be attached to the bare end (left end of the structure shown in Figure 1) of the rod, and consequently a rod with two end nanozones simply cannot be formed in Banin.

The examiner also commented in the advisory action that claim 68 does not state the necessity of "both sides" being covered (instead the claim only requires one end covered) and therefore the examiner considers the argument to be moot.

However, as discussed above, the process of the applied Banin reference begins with a single seed which is the singularity from which one-directional growth proceeds. Thus, the process of Banin begins with a seed, and the elongated portion is grown from the seed by deposition, as specifically described in Banin.

By contrast, the presently claimed process begins with a rod structure (or other nanostructure such as tripod, tetrapod, etc.) which is recited in claim 68 as "nanostructures, each having at least one elongated structure element of a first material" and which is bare at both ends. In solution, the rod is contacted with a material which deposits on the rod ends (one or both, or in higher structures on one or more of its ends).

This process is thus selective and one may obtain a mixture of nanostructures. Such a mixture is not possible using the process of the applied Banin reference because a singular seed is used in the construction of each nanorod. Therefore, the presently claimed process, unlike the process of Banin, can be used for the manufacture of nanostructures having two or more nanozones, as recited in claim 59, as well as nanostructures having only one nanozone. The examiner's proposal to limit the scope of the method claim to be identical to that of the product of claim 59 is thus not warranted.

In view of the above discussion, along with the amendments and arguments in the amendment filed February 17, 2010, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

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